

EXHIBIT ~~F~~ - SAMPLING SYSTEM

METERING STATION: Metering station shall include and consist of the following items:

- a. FIBERGLASS REINFORCED PLASTIC PACKAGED METERING MANHOLE.  
Manhole shall meet the requirements of ASTM D3753 and shall be complete with integral Parshall flume for flow measurement, manhole reducer for cast iron manhole ring and lid, end adaptors for quick connection to pipe, and an internal ladder. FRP Manhole shall be as indicated on plans and conform to that manufactured by Plast-Fab, or equal.
- b. FIBERGLASS REINFORCED PLASTIC ENCLOSURE. The enclosure shall be designed for outdoor installation and shall be constructed of one piece molded fiberglass reinforced plastic. The enclosure shall have a beige gel coat exterior with ultraviolet light inhibitors. The access door opening shall have a continuous closed cell neoprene rubber gasket. The enclosure interior shall be insulated with a minimum of one inch thick rigid polyurethane foam. The enclosure shall have grade 304 stainless steel rainproof vents. Door latches and hinges shall be chrome plated brass or stainless steel with provision for locking. The enclosure shall have a double duplex outlet and a 500 Watt, 120 VAC heater with adjustable thermostat. The enclosure shall have a flanged bottom perimeter suitable for installation on a concrete pad or floor. The enclosure shall be as indicated on the plans and conform to that manufactured by American Sigma, or equal.
- c. COMPOSITE SAMPLER: The composite sampler shall be capable of pumping uniform, small increment samples into a single receptacle at flow proportioned intervals. Sampler shall have an insulated ice compartment for maintaining samples and be provided with an automatic shutoff to prevent accidental overflow. Instrumentation shall be weatherproof with a single watertight, stainless steel housing for all electronic and mechanical components. Sampling frequency shall be based on flow and unit shall be self purging following each sample to prevent cross contamination between samples. Case shall be constructed of high impact plastic with removeable sections for ease of cleaning or servicing. Sampler power shall be provided from 120 VAC, 60 Hz source. Suction line and strainer shall be 3/8" I.D. by 20' vinyl suction line with weighted polypropylene bodied strainer. Sampling container shall be 3 gallon polyethylene container with lid and polypropylene lid container. Composite sampler shall be as that manufactured by ISCO, Inc. model 1580, or equal.

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d. OPEN CHANNEL FLOW METER: There shall be furnished a totalizing open channel flow meter, using a submerged pressure transducer to measure depth for use the Farshall flume primary measuring device. The flow meter shall have a full scale liquid level range of 0.08 to 8.33 feet. The flow meter shall be supplied with a digital electronic level adjustment control to allow for simple front panel calibration. The level shall be measured with a maximum error of  $\pm 0.01$  ft. over a range of 0.08 to 4.0 ft. Liquid level shall be measured through the use of a level sensor. The level sensor shall consist of a submerged probe permanently joined to an electronics package by a 15 ft. cable. The electronics package shall convert the low level transducer output into a digital signal and shall be housed in a structural foam plastic enclosure with a stainless steel hose fitting to provide venting for the pressure transducer. The flow meter shall require 12 VDC power which shall be supplied by the accompanying Sampler. The flow meter shall have backup battery power to maintain calibration during short power outages. Flow meter shall be as that manufactured by ISCO, Inc., Model 2300, or equal.

e. PLOTTER: There shall be furnished a digital plotting device, compatible with the flow meter, to record the flow rate and total flow measured by the flow meter. The plotter shall simultaneously record the flow rate, total flow, time of day, date and full scale span. The plotter shall also record sampling events. The plotter shall have selectable chart speeds full scale level spans, and flow rate spans. The plotter shall be powered by the accompanying flow meter and shall be furnished with cable to connect th plotter to the meter. Plotter shall be as that manufactured by ISCO, Inc., Model 2310, or equal.

f. POWER: Power shall be provided from the Commonwealth Edison system and shall be rated at no less than 120 VAC at 60Hz.

Metering Station shall include material, installation, and connection costs for manhole, enclosure, sampler, flow meter, plotter, and 120 VAC power.